

	Type	Hits	Search Text	DBs
1	BRS	3	"200026358"	USPAT; US-PGPUB; EPO; JPO; DERWENT;
2	BRS	602	toji	USPAT; US-PGPUB; EPO; JPO; DERWENT;
3	BRS	7	toji and yano	USPAT; US-PGPUB; EPO; JPO; DERWENT;
4	BRS	2	JP05984	USPAT; US-PGPUB; EPO; JPO; DERWENT;
5	BRS	2	"20030167524"	USPAT; US-PGPUB; EPO; JPO; DERWENT;
6	BRS	1	"200151638"	USPAT; US-PGPUB; EPO; JPO; DERWENT;

RESULT 1

S66677

thioredoxin-disulfide reductase (EC 1.8.1.9) [validated] - human

N;Contains: thioredoxin reductase (NADPH), placental form; thioredoxin reductase (NADPH), T-cell form

C;Species: Homo sapiens (man)

C;Date: 28-Oct-1996 #sequence_revision 10-Oct-1997 #text_change 03-Jun-2002

C;Accession: S66677; S74270; A43122; G01120

R;Gasdaska, P.Y.; Gasdaska, J.R.; Cochran, S.; Powis, G.

FEBS Lett. 373, 5-9, 1995

A;Title: Cloning and sequencing of a human thioredoxin reductase.

A;Reference number: S66677; MUID:96013875; PMID:7589432

A;Accession: S66677

A;Molecule type: mRNA

A;Residues: 1-497 <GAS1>

A;Cross-references: EMBL:X91247; NID:g1237037; PIDN:CAA62629.1; PID:g1237038; GB:S79851; NID:g1184536; PID:g1184537

A;Accession: S74270

A;Molecule type: protein

A;Residues: 3-11;157-165;435-457 <GAS2>

R;Gladyshev, V.N.; Jeang, K.T.; Stadtman, T.C.

Proc. Natl. Acad. Sci. U.S.A. 93, 6146-6151, 1996

A;Title: Selenocysteine, identified as the penultimate C-terminal residue in human T-cell thioredoxin reductase, corresponds to TGA in the human placental gene.

A;Reference number: A43122; MUID:96234105; PMID:8650234

A;Accession: A43122

A;Molecule type: protein

A;Residues: 488-497,'X',499 <GLA>

A;Note: the residue designated 'X' was determined to be selenocysteine; we have shown the residue as Cys

C;Comment: In most tissues, such as placenta, the UGA codon is used as the terminator. In the T-cell at least the UGA codon is translated with selenocysteine, and termination occurs at a UAA codon two codons further along.

C;Genetics:

A;Gene: GDB:TXNRD1; TXNR

A;Cross-references: GDB:683567; OMIM:601112

A;Map position: 12q23-12q24.1

C;Complex: homodimer

C;Function:

A;Description: catalyzes the reduction of thioredoxin by NADPH

A;Note: the T-cell form also has peroxidase activity

C;Superfamily: dihydrolipoamide dehydrogenase; dihydrolipoamide dehydrogenase homology

C;Keywords: alternative termination; FAD; flavoprotein; homodimer; NADP; oxidoreductase; redox-active disulfide; selenocysteine

F;3-499/Product: thioredoxin reductase (NADPH), T-cell form #status experimental <MAT1>

F;3-497/Product: thioredoxin reductase (NADPH), placental form #status experimental <MAT2>

F;14-42/Region: beta-alpha-beta FAD nucleotide-binding fold

F;16-479/Domain: dihydrolipoamide dehydrogenase homology <DLD>

F;192-222/Region: beta-alpha-beta NADP nucleotide-binding fold

F;59-64/Disulfide bonds: redox-active #status predicted

F;472/Active site: His #status predicted

F;498/Modified site: selenocysteine #status experimental

Query Match 52.1%; Score 1429; DB 1; Length 499;
 Best Local Similarity 56.0%; Pred. No. 6.8e-97;
 Matches 274; Conservative 77; Mismatches 134; Indels 4; Gaps 2;

Qy	36	DYDLLVVGGSGLACAKEAAQLGRKVAVVDYVEPSPQGTRWGLGGTCVNVGCIPKKLMH	95
		: : : : : :	
Db	12	DYDLIIIGGSGGLAAAKEAAQYGKKVMVLD FVTPTPLGTRWGLGGTCVNVGCIPKKLMH	71
Qy	96	QAALLGGLIQDAPNYGWEVAQPVPDWRKMAEAVQNHVKSLNWGHRVQLQDRKVYFNIK	155
		: : : : : : :	
Db	72	QAALLGQALQDSRNYGKWVEETVKHWDWRMIEAVQNHIGSLNWGYRVALREKKVYENAY	131
Qy	156	ASFVDEHTVCGVAKGGKEILLSADHIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESP	215
		: : : : : :	
Db	132	GQFIGPHRIKATNNKGKEKIYSAESFLIATGERPRY-LGIPGDKEYCISDDLFSLPYCP	190
Qy	216	GKTLVVGASYVALECAGFLTIGLDTTIMMRSIPLRGFDQQMSSMVIEWMHASHGTRFLRG	275
		: : : : : :	
Db	191	GKTLVVGASYVALECAGFLAGIGLVTVMVRSILLRGFDQDMANKIGEHEEHGKIFIRQ	250
Qy	276	CAPSRVRRLL--PDGQLQVTWEDSTTGKEDTGTGFTVLWAIGRVPDTRSLNLEKAGVDTS	332
		: : : : : : : : : : : :	
Db	251	FVPIKVEQIEAGTPGRLRVVAQSTNSEEIIIEGEYNTVMLAIGRDACTRKIGLETVGVKIN	310
Qy	333	PDTQKILVDSREATSVPHIYAIGDVVEGRPELTPTAIMAGRLLVQRLFGSSDLMDYDNV	392
		: : : : : : : :	
Db	311	EKTGKIPVTDEEQTNVPYIYAIGDILEDKVELTPVAIQAGRLLAQRLYAGSTVKCDYENV	370
Qy	393	PTTVFTPLEYGCVGLSEEEAVARHGQEHVEVYHAHYKPLEFTVAGRDASQCYVKMVCLRE	452
		: : : : : : : : : :	
Db	371	PTTVFTPLEYGACGLSEEKAVEKFGEENIEVYHSYFWPLEWTIPSRDNNKCYAKIICNTK	430
Qy	453	PPQLVLGLHFLGPNAGEVTQGFAALGKCGASYAQMRTVGIHPTCSEEVVKLRISKRSGL	512
		: : : : : : :	
Db	431	DNERVVGFHVLGPNAGEVTQGFAAALKCGLTKKQLDSTIGIHPVCAEVFTTSLSVTKRSGA	490
Qy	513	DPTVTGCXG	521
Db	491	SILQAGCCG	499

RESULT 1

US-10-032-201B-297

; Sequence 297, Application US/10032201B

; Publication No. US20030167524A1

; GENERAL INFORMATION:

; APPLICANT: Van Rooijen, Gijs

; APPLICANT: Deckers, Harm

; APPLICANT: Heifetz, Peter Bernard

; APPLICANT: Briggs, Steven

; APPLICANT: Dalmia, Bipin Kumar

; APPLICANT: Del Val, Greg

; APPLICANT: Zaplachinski, Steve

; APPLICANT: Moloney, Maurice

; TITLE OF INVENTION: METHODS FOR THE PRODUCTION OF MULTIMERIC PROTEINS, AND RELATED

; TITLE OF INVENTION: COMPOSITIONS

; FILE REFERENCE: 38814 351B

; CURRENT APPLICATION NUMBER: US/10/032,201B

; CURRENT FILING DATE: 2001-12-19

; NUMBER OF SEQ ID NOS: 313

; SOFTWARE: FastSEQ for Windows Version 4.0

; SEQ ID NO 297

; LENGTH: 494

; TYPE: PRT

; ORGANISM: Homo sapien

US-10-032-201B-297

Query Match 93.7%; Score 488; DB 12; Length 494;

Best Local Similarity 100.0%; Pred. No. 0;

Matches 488; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	32	AGQRDYDLLVVGGSGLACAKEAAQLGRKVA	VVDYVEPSPQGTRWGLGGTCNVNGCIPK	91
Db	5	AGQRDYDLLVVGGSGLACAKEAAQLGRKVA	VVDYVEPSPQGTRWGLGGTCNVNGCIPK	64
Qy	92	KLMHQAALLGGLIQDAPNYGWEVAQVPVPHDWRKMAEAVQNHVKS	LNWGHVQLQDRKVKY	151
Db	65	KLMHQAALLGGLIQDAPNYGWEVAQVPVPHDWRKMAEAVQNHVKS	LNWGHVQLQDRKVKY	124
Qy	152	FNIKASFVDEHTVCGVAKGGKEILLSADHIIIATGGRPRYP	THIEGALEYGITSDDIFWL	211
Db	125	FNIKASFVDEHTVCGVAKGGKEILLSADHIIIATGGRPRYP	THIEGALEYGITSDDIFWL	184
Qy	212	KESPGKTLVVGASYVALECAGFLTIGLDTTIMMRSIPLRGFDQ	QMSSMVIEHMASHGTR	271
Db	185	KESPGKTLVVGASYVALECAGFLTIGLDTTIMMRSIPLRGFDQ	QMSSMVIEHMASHGTR	244
Qy	272	FLRGCAPSRVRRLLPDGQLQVTWEDSTTGKEDTGTFTVLWAIGRVP	DTSLNLEKAGVDT	331
Db	245	FLRGCAPSRVRRLLPDGQLQVTWEDSTTGKEDTGTFTVLWAIGRVP	DTSLNLEKAGVDT	304
Qy	332	SPDTQKILVDSREATSVPHIYAIGDVVEGRPELTPTAIMAGRLLV	QRLFGGSSDLMDYDN	391
Db	305	SPDTQKILVDSREATSVPHIYAIGDVVEGRPELTPTAIMAGRLLV	QRLFGGSSDLMDYDN	364
Qy	392	VPPTTVFTPLEYGCVGLSEEEAVARHGQEHVEVYHAHYKPLEFTV	AGRDASQCYVKMVCLR	451

Db 365 VPTTVFTPLEYGCVGLSEEEAVARHGQEHVEVYHAHYKPLEFTVAGRDASQCYVKMVCLR 424
Qy 452 EPPQLVLGLHFLGPNAGEVTQGFALGIKCGASYAQVMRTVGIHPTCSEEVVKLRISKRS 511
Db 425 EPPQLVLGLHFLGPNAGEVTQGFALGIKCGASYAQVMRTVGIHPTCSEEVVKLRISKRS 484
Qy 512 LDPTVTGC 519
Db 485 LDPTVTGC 492

RESULT 3

ABP60944

ID ABP60944 standard; Protein; 521 AA.

XX

AC ABP60944;

XX

DT 06-SEP-2002 (first entry)

XX

DE Homo sapiens thioredoxin reductase SEQ ID NO:293.

XX

KW Multimeric protein; redox protein; thioredoxin; thioredoxin reductase;
KW oil body; ophthalmological; antidiabetic; cytostatic; antipsoriatic;
KW vasotropic; vulnerary; antibacterial; immunosuppressive; antiulcer;
KW food product; milk; wheat; oxidative stress; cataract; diabetes;
KW chronic obstructive pulmonary disease; envenomation; psoriasis; sepsis;
KW bronchiopulmonary disease; malignancy; reperfusion injury; wound healing;
KW gastro intestinal bleeding; intestinal bowel disease; ulcer;
KW gastro oesophageal reflux disease.

XX

OS Homo sapiens.

XX

PN WO200250289-A1.

XX

PD 27-JUN-2002.

XX

PF 19-DEC-2001; 2001WO-US50240.

XX

PR 19-DEC-2000; 2000US-0742900.

PR 05-JUL-2001; 2001US-302885P.

PR 04-DEC-2001; 2001US-0006038.

XX

PA (SEMB-) SEMBIOSYS GENETICS INC.

PA (SYGN) SYNGENTA PARTICIPATIONS AG.

XX

PI Van Rooijen G, Deckers H, Heifetz PB, Briggs SP, Dalmia BK;

PI Del Val G, Zaplachinski S, Moloney M;

XX

DR WPI; 2002-508806/54.

XX

PT Producing oil body associated with recombinant multimeric protein
PT complex e.g. redox proteins and immunoglobulins comprises producing
PT recombinant polypeptides capable of forming the complex in cells
PT comprising oil bodies -

XX

PS Claim 82; Page 337-338; 362pp; English.

XX

CC The present invention describes a method (M1) for producing an oil body
CC associated with a recombinant multimeric protein complex (MPC). M1
CC comprises producing in a cell comprising oil bodies a first and second
CC recombinant polypeptide (P1, P2), where P1 is capable of associating
CC with P2 to form the MPC and associating the complex with an occlusion
CC body (OB) through an OB-targeting-protein capable of associating with OB
CC and P1. M1 is useful for producing an oil body associated with a
CC recombinant MPC. The oil bodies are further formulated for use in the
CC preparation of a food product such as milk or wheat based food product,
CC personal care product which reduces the oxidative stress on the surface
CC area of the human body or used to lighten the skin, or a pharmaceutical

CC composition used to treat chronic obstructive pulmonary disease (COPD),
CC cataracts, diabetes, envenomation, bronchiopulmonary disease, psoriasis,
CC malignancies, reperfusion injury, wound healing, sepsis, gastro
CC intestinal (GI) bleeding, intestinal bowel disease (IBD), ulcers, GERD
CC (gastro oesophageal reflux disease). ABN89569 to ABN89593 and ABP60677
CC to ABP60964 represent sequence given in the exemplification of the
CC present invention.

XX

SQ Sequence 521 AA;

Query Match 99.7%; Score 2736; DB 23; Length 521;
Best Local Similarity 99.8%; Pred. No. 2.8e-253;
Matches 520; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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Qy      1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60
      |||
Db      1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60

Qy     61 KVAVVDYVEPSPQGTRWGLGGTCVNVGCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVPH 120
      |||
Db     61 KVAVVDYVEPSPQGTRWGLGGTCVNVGCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVPH 120

Qy    121 DWRKMAEAVQNHVKSLSNWGHRVQLQDRKVYFNIKASFVDEHTVCGVAKGGKEILLSADH 180
      |||
Db    121 DWRKMAEAVQNHVKSLSNWGHRVQLQDRKVYFNIKASFVDEHTVCGVAKGGKEILLSADH 180

Qy    181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240
      |||
Db    181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240

Qy    241 TTIMMRSIPLRGFDQQMSSMVEIHMASHGTRFLRGCAPSRVRLPDGQLQVTWEDSTTGK 300
      |||
Db    241 TTIMMRSIPLRGFDQQMSSMVEIHMASHGTRFLRGCAPSRVRLPDGQLQVTWEDSTTGK 300

Qy    301 EDTGTFTDTVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360
      |||
Db    301 EDTGTFTDTVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360

Qy    361 RPELTPTAIMAGRLLVQRLFGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH 420
      |||
Db    361 RPELTPIAIMAGRLLVQRLFGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH 420

Qy    421 VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC 480
      |||
Db    421 VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC 480

Qy    481 GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG 521
      |||
Db    481 GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG 521
```

RESULT 6

AAE05190

ID AAE05190 standard; Protein; 522 AA.

XX

AC AAE05190;

XX

DT 12-SEP-2001 (first entry)

XX

DE Human drug metabolising enzyme (DME-21) protein.

XX

KW Human; drug metabolising enzyme; DME-21; immunosuppressive; gene therapy;
KW cytostatic; autoimmune disorder; inflammatory disorder; atherosclerosis;
KW osteoporosis; eye disorder; hepatic tumour; Addison's disease; cretinism;
KW rheumatoid arthritis; acquired immune deficiency syndrome; AIDS; anaemia;
KW developmental disorder; endocrine disorder; iritis; acromegaly; epilepsy;
KW thyrotoxicosis; pancreatic disorder; diabetes mellitus; obesity; adenoma;
KW gastrointestinal disorder; nodular hyperplasia; conjunctivitis; glaucoma;
KW actinic keratosis; metabolic disorder; dysphagia; anorexia; carcinoma;
KW cell proliferative disorder.

XX

OS Homo sapiens.

XX

PN WO200151638-A2.

XX

PD 19-JUL-2001.

XX

PF 12-JAN-2001; 2001WO-US01174.

XX

PR 14-JAN-2000; 2000US-0176139.

PR 21-JAN-2000; 2000US-0177443.

PR 28-JAN-2000; 2000US-0178574.

XX

PA (INCY-) INCYTE GENOMICS INC.

XX

PI Yang J, Baughn MR, Burford N, Au-Young J, Lu DAM, Reddy R;
PI Ring HZ, Hillman JL, Yue H, Azimzai Y, Yao MG, Gandhi AR;
PI Nguyen DB, Tang YT, Lal P, Bandman O;

XX

DR WPI; 2001-425874/45.

DR N-PSDB; AAD09956.

XX

PT Drug metabolizing enzymes and encoding polynucleotides, useful for
PT diagnosing, treating and/or preventing autoimmune, inflammatory, cell
PT proliferative, developmental, endocrine, eye, metabolic, and
PT gastrointestinal disorders -

XX

PS Claim 1; Page 155-156; 133pp; English.

XX

CC The present sequence is human drug metabolising enzyme (DME-21) protein.
CC Human DME and its nucleic acid molecule are useful for the diagnosis,
CC treatment and prevention of disorders associated with increased or
CC decreased expression of DME. Examples of such disorders include,
CC autoimmune/inflammatory disorder such as acquired immune deficiency
CC syndrome (AIDS), rheumatoid arthritis, osteoporosis; cell proliferative
CC disorder such as actinic keratosis, atherosclerosis; developmental
CC disorder such as epilepsy, anaemia; endocrine disorder such as
CC acromegaly, cretinism, thyrotoxicosis; pancreatic disorder such as

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: November 5, 2003, 22:46:50 ; Search time 46 Seconds
(without alignments)
1797.751 Million cell updates/sec

Title: US-09-830-706B-2
Perfect score: 2744
Sequence: 1 MAVALRGLGGRFRWRTQAVA.....VKLRISKRSGLDPTVTGCGXG 521

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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24: /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,

and is derived by analysis of the total score distribution.

SUMMARIES

Result		%					
No.	Score	Query	Match	Length	DB	ID	Description
1	2742	99.9	521	21	AAB03787		Human SECIS encode
2	2742	99.9	521	21	AAB03751		Human thioredoxin
3	2736	99.7	521	23	ABP60944		Homo sapiens thior
4	2736	99.7	524	23	ABP60946		Homo sapiens thior
5	2733	99.6	524	23	ABP60941		Homo sapiens thior
6	2729	99.5	522	22	AAE05190		Human drug metabol
7	2716.5	99.0	521	23	ABP60949		Homo sapiens thior
8	2586	94.2	494	21	AAB03788		Human SECIS encode
9	2586	94.2	494	21	AAB03752		Human thioredoxin
10	2585	94.2	494	23	ABP60948		Homo sapiens thior
11	2355.5	85.8	524	23	ABP60954		Mus musculus thior
12	2354.5	85.8	520	23	ABP60956		Mus musculus thior
13	2352.5	85.7	528	23	ABP60955		Mus musculus thior
14	2318	84.5	526	23	ABP60963		Rattus norvegicus
15	2260.5	82.4	511	23	ABP60937		Bos taurus thioered
16	1461	53.2	613	23	ABP60951		Mus musculus thior
17	1460	53.2	499	23	ABP60957		Mus musculus thior
18	1442	52.6	499	23	ABP60879		Bos taurus thioered
19	1438	52.4	504	20	AAW83401		Human thioredoxin
20	1438	52.4	551	20	AAW83404		Human KM-102-deriv
21	1438	52.4	939	20	AAW83402		Human thioredoxin
22	1438	52.4	939	20	AAW83403		Human thioredoxin
23	1433	52.2	549	17	AAR92050		KM31-7 precursor.
24	1433	52.2	549	23	ABP60950		Homo sapiens thior
25	1426	52.0	497	23	ABP60942		Homo sapiens thior
26	1425	51.9	497	22	AAB90751		Human shear stress
27	1425	51.9	497	23	ABP60881		Homo sapiens thior
28	1425	51.9	497	24	AAO20625		Thioredoxin reduct
29	1425	51.9	497	24	AAO20634		Thioredoxin reduct
30	1421.5	51.8	491	22	ABB58307		Drosophila melanog
31	1421.5	51.8	491	22	ABB67058		Drosophila melanog
32	1421	51.8	497	23	ABP60943		Homo sapiens thior
33	1421	51.8	498	22	AAB24181		Human brain thiore
34	1418	51.7	497	23	ABP60958		Rattus norvegicus
35	1418	51.7	499	23	ABP60964		Sus scrofa thioered
36	1414	51.5	497	23	ABP60701		Human thioredoxin
37	1410	51.4	579	23	ABP60945		Homo sapiens thior
38	1410	51.4	613	23	ABP60953		Mus musculus thior
39	1404	51.2	577	23	ABP60947		Homo sapiens thior
40	1403.5	51.1	498	23	ABP60960		Rattus norvegicus
41	1401	51.1	516	22	ABB65695		Drosophila melanog
42	1401	51.1	516	23	ABP60940		Drosophila melanog
43	1398.5	51.0	496	23	ABP60962		Rattus norvegicus
44	1306	47.6	667	23	ABP60939		Caenorhabditis ele
45	1300	47.4	525	23	ABP60938		Caenorhabditis ele

ALIGNMENTS

RESULT 1

AAB03787

ID AAB03787 standard; Protein; 521 AA.

XX

AC AAB03787;

XX

DT 13-OCT-2000 (first entry)

XX

DE Human SECIS encoded protein sequence.

XX

KW Selenocysteine insertion sequence; SECIS; thioredoxin reductase;
KW drug development; selenoprotein expression.

XX

OS Homo sapiens.

XX

FH Key Location/Qualifiers

FT Modified-site 520

FT /label= Selenocysteine

FT /note= "encoded by TGA"

XX

PN WO200026358-A1.

XX

PD 11-MAY-2000.

XX

PF 28-OCT-1999; 99WO-JP05984.

XX

PR 30-OCT-1998; 98JP-0310422.

PR 16-NOV-1998; 98JP-0325344.

XX

PA (MEDI-) MEDICAL & BIOLOGICAL LAB CO LTD.

XX

PI Toji S, Yano M, Tamai K;

XX

DR WPI; 2000-376129/32.

DR N-PSDB; AAA59835.

XX

PT Novel selenocysteine insertion sequence which enforces reading of TGA
PT as selenocysteine in a translated region upstream of it, for expression
PT of selenoproteins -

XX

PS Disclosure; Page 38-42; 60pp; Japanese.

XX

CC The present invention relates to a Selenocysteine insertion sequence
CC which enforces the reading of a TGA codon as selenocysteine in a
CC translated region upstream of it. The novel selenocysteine insertion
CC sequence (SECIS) is of human thioredoxin reductase (TxR) origin. The
CC invention also includes an expression vector for selenoproteins
CC containing the new SECIS, a host cell transformed by the vector,
CC selenoproteins produced by the host cells, and a method for screening for
CC potential inhibitors of selenoprotein expression. The sequence is useful
CC for the effective expression of selenoproteins and the development of
CC drugs for treating disorders with which selenoproteins are associated.
CC The present sequence represents a human amino acid sequence encoded by a
CC SECIS containing nucleotide sequence.

XX

SQ Sequence 521 AA;

Query Match 99.9%; Score 2742; DB 21; Length 521;
Best Local Similarity 100.0%; Pred. No. 7.4e-254;
Matches 521; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy      1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60
        ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60

Qy     61 KVAVDYVEPSPOGTRWGLGGTCVNVGCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVP 120
        ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61 KVAVDYVEPSPOGTRWGLGGTCVNVGCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVP 120

Qy    121 DWRKMAEAVQNHVKSLNWGHRVQLQDRKVKYFNIKASFVDEHTVCGVAKGGKEILLSADH 180
        ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 DWRKMAEAVQNHVKSLNWGHRVQLQDRKVKYFNIKASFVDEHTVCGVAKGGKEILLSADH 180

Qy    181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240
        ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240

Qy    241 TTIMMRSIPLRGFDQQMSSMVIIEHMASHGTRFLRGCAPSRVRLPDGQLQVTWEDSTTGK 300
        ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    241 TTIMMRSIPLRGFDQQMSSMVIIEHMASHGTRFLRGCAPSRVRLPDGQLQVTWEDSTTGK 300

Qy    301 EDTGTFTDTVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360
        ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    301 EDTGTFTDTVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360

Qy    361 RPELTPTAIMAGRLLVQRLFGGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH 420
        ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    361 RPELTPTAIMAGRLLVQRLFGGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH 420

Qy    421 VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC 480
        ||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    421 VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC 480

Qy    481 GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCGXG 521
        ||||||||||||||||||||||||||||||||||||||||||||
Db    481 GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCGXG 521
```

RESULT 2

AAB03751

ID AAB03751 standard; Protein; 521 AA.

XX

AC AAB03751;

XX

DT 04-OCT-2000 (first entry)

XX

DE Human thioredoxin reductase (TxR) amino acid sequence.

XX

KW Thioredoxin reductase; TxR; human; inflammation; cancer; apoptosis;

KW X-linked inhibitor of apoptosis protein binding protein; XIAP;

KW viral infection; chromosome 22q11.2.

XX

OS Homo sapiens.

XX

FH Key Location/Qualifiers
 FT Misc-difference 521
 FT /note= "Selenocysteine"
 XX
 PN WO200026382-A1.
 XX
 PD 11-MAY-2000.
 XX
 PF 28-OCT-1999; 99WO-JP05983.
 XX
 PR 30-OCT-1998; 98JP-0310422.
 XX
 PA (MEDI-) MEDICAL & BIOLOGICAL LAB CO LTD.
 XX
 PI Toji S, Yano M, Tamai K;
 XX
 DR WPI; 2000-365627/31.
 DR N-PSDB; AAA53429.
 XX
 PT Thioredoxin reductase II (an X-linked inhibitor for apoptosis protein
 PT (XIAP)-binding protein), with thioredoxin reductase activity, useful
 PT e.g. for treating apoptosis-related disorders, cancer and inflammation
 PT -
 XX
 PS Claim 1; Page 53-56; 139pp; Japanese.
 XX
 CC This sequence represents a human thioredoxin reductase (TxR) protein
 CC sequence. The invention relates to two TxR proteins, which have XIAP
 CC (X-linked inhibitor of apoptosis protein)-binding protein activity. The
 CC human TxR gene is located on chromosome 22q11.2. The invention includes
 CC antibodies which bind to the proteins, a vector containing the TxR
 CC encoding nucleotide sequences, and methods for producing transformants
 CC using the vector. Thioredoxin reductase has cytostatic and
 CC anti-inflammatory activity, and is used in the treatment of diseases
 CC relating to apoptosis particularly due to cancer or viral infection. TxR
 CC can also be used to treat inflammation and in the screening of
 CC anti-cancer agents.
 XX
 SQ Sequence 521 AA;

Query Match 99.9%; Score 2742; DB 21; Length 521;
 Best Local Similarity 100.0%; Pred. No. 7.4e-254;
 Matches 521; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60
 Db 1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60
 Qy 61 KVAVDYVEPSPQGTRWGLGGTCVNVCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVPH 120
 Db 61 KVAVDYVEPSPQGTRWGLGGTCVNVCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVPH 120
 Qy 121 DWRKMAEAVQNHVKSLNWGHRVQLQDRKVYFNIKASFVDEHTVCGVAKGGKEILLSADH 180
 Db 121 DWRKMAEAVQNHVKSLNWGHRVQLQDRKVYFNIKASFVDEHTVCGVAKGGKEILLSADH 180
 Qy 181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240

```

Db      181  |||IATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240
Qy      241  TTIMMRSIPLRGFDQQMSSMVIEWHMASHGTRFLRGCAPSRVRRLPDGQLQVTWEDSTTGK 300
Db      241  |||TTIMMRSIPLRGFDQQMSSMVIEWHMASHGTRFLRGCAPSRVRRLPDGQLQVTWEDSTTGK 300
Qy      301  EDTGTFTDTVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360
Db      301  |||EDTGTFTDTVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360
Qy      361  RPELTPTAIMAGRLLVQRLFGGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH 420
Db      361  |||RPELTPTAIMAGRLLVQRLFGGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH 420
Qy      421  VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC 480
Db      421  |||VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC 480
Qy      481  GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG 521
Db      481  |||GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG 521

```

RESULT 3

ABP60944

ID ABP60944 standard; Protein; 521 AA.

XX

AC ABP60944;

XX

DT 06-SEP-2002 (first entry)

XX

DE Homo sapiens thioredoxin reductase SEQ ID NO:293.

XX

KW Multimeric protein; redox protein; thioredoxin; thioredoxin reductase;

KW oil body; ophthalmological; antidiabetic; cytostatic; antipsoriatic;

KW vasotropic; vulnerary; antibacterial; immunosuppressive; antiulcer;

KW food product; milk; wheat; oxidative stress; cataract; diabetes;

KW chronic obstructive pulmonary disease; envenomation; psoriasis; sepsis;

KW bronchiopulmonary disease; malignancy; reperfusion injury; wound healing;

KW gastro intestinal bleeding; intestinal bowel disease; ulcer;

KW gastro oesophageal reflux disease.

XX

OS Homo sapiens.

XX

PN WO200250289-A1.

XX

PD 27-JUN-2002.

XX

PF 19-DEC-2001; 2001WO-US50240.

XX

PR 19-DEC-2000; 2000US-0742900.

PR 05-JUL-2001; 2001US-302885P.

PR 04-DEC-2001; 2001US-0006038.

XX

PA (SEMB-) SEMBIOSYS GENETICS INC.

PA (SYGN) SYNGENTA PARTICIPATIONS AG.

```

XX
PI Van Rooijen G, Deckers H, Heifetz PB, Briggs SP, Dalmia BK;
PI Del Val G, Zaplachinski S, Moloney M;
XX
DR WPI; 2002-508806/54.
XX
PT Producing oil body associated with recombinant multimeric protein
PT complex e.g. redox proteins and immunoglobulins comprises producing
PT recombinant polypeptides capable of forming the complex in cells
PT comprising oil bodies -
XX
PS Claim 82; Page 337-338; 362pp; English.
XX
CC The present invention describes a method (M1) for producing an oil body
CC associated with a recombinant multimeric protein complex (MPC). M1
CC comprises producing in a cell comprising oil bodies a first and second
CC recombinant polypeptide (P1, P2), where P1 is capable of associating
CC with P2 to form the MPC and associating the complex with an occlusion
CC body (OB) through an OB-targeting-protein capable of associating with OB
CC and P1. M1 is useful for producing an oil body associated with a
CC recombinant MPC. The oil bodies are further formulated for use in the
CC preparation of a food product such as milk or wheat based food product,
CC personal care product which reduces the oxidative stress on the surface
CC area of the human body or used to lighten the skin, or a pharmaceutical
CC composition used to treat chronic obstructive pulmonary disease (COPD),
CC cataracts, diabetes, envenomation, bronchiopulmonary disease, psoriasis,
CC malignancies, reperfusion injury, wound healing, sepsis, gastro
CC intestinal (GI) bleeding, intestinal bowel disease (IBD), ulcers, GERD
CC (gastro oesophageal reflux disease). ABN89569 to ABN89593 and ABP60677
CC to ABP60964 represent sequence given in the exemplification of the
CC present invention.
XX
SQ Sequence 521 AA;

Query Match 99.7%; Score 2736; DB 23; Length 521;
Best Local Similarity 99.8%; Pred. No. 2.8e-253;
Matches 520; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLLACAKEAAQLGR 60
Db 1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLLACAKEAAQLGR 60

Qy 61 KVAVDYVEPSPQGTRWGLGGTCVNVCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVP 120
Db 61 KVAVDYVEPSPQGTRWGLGGTCVNVCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVP 120

Qy 121 DWRKMAEAVQNHVKSLNWGHRVQLQDRKVKYFNIKASFVDEHTVCGVAKGGKEILLSADH 180
Db 121 DWRKMAEAVQNHVKSLNWGHRVQLQDRKVKYFNIKASFVDEHTVCGVAKGGKEILLSADH 180

Qy 181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240
Db 181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240

Qy 241 TTIMMRSIPLRGFDQOMSSMVEIHMASHGTRFLRGCAPSRVRRLPDGQLQVTWEDSTTGK 300
Db 241 TTIMMRSIPLRGFDQOMSSMVEIHMASHGTRFLRGCAPSRVRRLPDGQLQVTWEDSTTGK 300

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Qy      301 EDTGTFD TVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360
      |||
Db      301 EDTGTFD TVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360

Qy      361 RPELTPTAIMAGRLLVQRLFGGSSDLMDYDNPVTTVFTPLEYGCVGLSEEEAVARHGQEH 420
      |||
Db      361 RPELTPIAIMAGRLLVQRLFGGSSDLMDYDNPVTTVFTPLEYGCVGLSEEEAVARHGQEH 420

Qy      421 VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC 480
      |||
Db      421 VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC 480

Qy      481 GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG 521
      |||
Db      481 GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG 521

```

RESULT 4

ABP60946

ID ABP60946 standard; Protein; 524 AA.

XX

AC ABP60946;

XX

DT 06-SEP-2002 (first entry)

XX

DE Homo sapiens thioredoxin reductase SEQ ID NO:295.

XX

KW Multimeric protein; redox protein; thioredoxin; thioredoxin reductase;
KW oil body; ophthalmological; antidiabetic; cytostatic; antipsoriatic;
KW vasotropic; vulnerary; antibacterial; immunosuppressive; antiulcer;
KW food product; milk; wheat; oxidative stress; cataract; diabetes;
KW chronic obstructive pulmonary disease; envenomation; psoriasis; sepsis;
KW bronchiopulmonary disease; malignancy; reperfusion injury; wound healing;
KW gastro intestinal bleeding; intestinal bowel disease; ulcer;
KW gastro oesophageal reflux disease.

XX

OS Homo sapiens.

XX

PN WO200250289-A1.

XX

PD 27-JUN-2002.

XX

PF 19-DEC-2001; 2001WO-US50240.

XX

PR 19-DEC-2000; 2000US-0742900.

PR 05-JUL-2001; 2001US-302885P.

PR 04-DEC-2001; 2001US-0006038.

XX

PA (SEMB-) SEMBIOSYS GENETICS INC.

PA (SYGN) SYNGENTA PARTICIPATIONS AG.

XX

PI Van Rooijen G, Deckers H, Heifetz PB, Briggs SP, Dalmia BK;

PI Del Val G, Zaplachinski S, Moloney M;

XX

DR WPI; 2002-508806/54.

XX

GenCore version 5.1.6

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OM protein - protein search, using sw model

Run on: November 5, 2003, 22:54:46 ; Search time 46 Seconds
(without alignments)
1797.751 Million cell updates/sec

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Perfect score: 521
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Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 1107863 seqs, 158726573 residues

Word size : 0

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the totalscore distribution.

SUMMARIES

Result	%					Description
	No.	Score	Query Match	Length	ID	
1	520	99.8	521	21	AAB03787	Human SECIS encode
2	520	99.8	521	21	AAB03751	Human thioredoxin
3	489	93.9	494	21	AAB03788	Human SECIS encode
4	489	93.9	494	21	AAB03752	Human thioredoxin
5	488	93.7	494	23	ABP60948	Homo sapiens thior
6	419	80.4	521	23	ABP60944	Homo sapiens thior
7	419	80.4	524	23	ABP60946	Homo sapiens thior
8	356	68.3	524	23	ABP60941	Homo sapiens thior
9	355	68.1	521	23	ABP60949	Homo sapiens thior
10	355	68.1	522	22	AAE05190	Human drug metabol
11	214	41.1	234	21	AAB58986	Breast and ovarian
12	46	8.8	520	23	ABP60956	Mus musculu

RESULT 1

AAB03787

ID AAB03787 standard; Protein; 521 AA.

XX

AC AAB03787;

XX

DT 13-OCT-2000 (first entry)

XX

DE Human SECIS encoded protein sequence.

XX

KW Selenocysteine insertion sequence; SECIS; thioredoxin reductase;
KW drug development; selenoprotein expression.

XX

OS Homo sapiens.

XX

FH Key Location/Qualifiers

FT Modified-site 520

FT /label= Selenocysteine

FT /note= "encoded by TGA"

XX

PN WO200026358-A1.

XX

PD 11-MAY-2000.

XX

PF 28-OCT-1999; 99WO-JP05984.

XX

PR 30-OCT-1998; 98JP-0310422.

PR 16-NOV-1998; 98JP-0325344.

XX

PA (MEDI-) MEDICAL & BIOLOGICAL LAB CO LTD.

XX

PI Toji S, Yano M, Tamai K;

XX

DR WPI; 2000-376129/32.

DR N-PSDB; AAA59835.

XX

PT Novel selenocysteine insertion sequence which enforces reading of TGA
PT as selenocysteine in a translated region upstream of it, for expression
PT of selenoproteins -

XX

PS Disclosure; Page 38-42; 60pp; Japanese.

XX

CC The present invention relates to a Selenocysteine insertion sequence
CC which enforces the reading of a TGA codon as selenocysteine in a
CC translated region upstream of it. The novel selenocysteine insertion
CC sequence (SECIS) is of human thioredoxin reductase (TxR) origin. The
CC invention also includes an expression vector for selenoproteins
CC containing the new SECIS, a host cell transformed by the vector,
CC selenoproteins produced by the host cells, and a method for screening for
CC potential inhibitors of selenoprotein expression. The sequence is useful
CC for the effective expression of selenoproteins and the development of
CC drugs for treating disorders with which selenoproteins are associated.
CC The present sequence represents a human amino acid sequence encoded by a
CC SECIS containing nucleotide sequence.

XX

SQ Sequence 521 AA;

Query Match 99.8%; Score 520; DB 21; Length 521;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 521; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```

Qy      1 MAVALRGLGGRFRWRTQAVAGGVGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60
        |||
Db      1 MAVALRGLGGRFRWRTQAVAGGVGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60

Qy     61 KVAVVDYVEPSPOGTRWGLGGTCVNVGCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVP 120
        |||
Db     61 KVAVVDYVEPSPOGTRWGLGGTCVNVGCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVP 120

Qy    121 DWRKMAEAVQNHVKSLNWGHRVQLQDRKVYFNIKASFVDEHTVCGVAKGGKEILLSADH 180
        |||
Db    121 DWRKMAEAVQNHVKSLNWGHRVQLQDRKVYFNIKASFVDEHTVCGVAKGGKEILLSADH 180

Qy    181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240
        |||
Db    181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240

Qy    241 TTIMMRSIPLRGFDQQMSSMVEIHMASHGTRFLRGCAPSRVRLPDGQLQVTWEDSTTGK 300
        |||
Db    241 TTIMMRSIPLRGFDQQMSSMVEIHMASHGTRFLRGCAPSRVRLPDGQLQVTWEDSTTGK 300

Qy    301 EDTGTFTDTVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360
        |||
Db    301 EDTGTFTDTVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG 360

Qy    361 RPELTPTAIMAGRLLVQRLFGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH 420
        |||
Db    361 RPELTPTAIMAGRLLVQRLFGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH 420

Qy    421 VEVYHAHYKPLEFTVAGRDASQCYVKMVCLEPPQLVLGLHFLGPNAGEVTQGFALGIKC 480
        |||
Db    421 VEVYHAHYKPLEFTVAGRDASQCYVKMVCLEPPQLVLGLHFLGPNAGEVTQGFALGIKC 480

Qy    481 GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG 521
        |||
Db    481 GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG 521

```

RESULT 2

AAB03751

ID AAB03751 standard; Protein; 521 AA.

XX

AC AAB03751;

XX

DT 04-OCT-2000 (first entry)

XX

DE Human thioredoxin reductase (TxR) amino acid sequence.

XX

KW Thioredoxin reductase; TxR; human; inflammation; cancer; apoptosis;

KW X-linked inhibitor of apoptosis protein binding protein; XIAP;

KW viral infection; chromosome 22q11.2.

XX

OS Homo sapiens.

XX

FH Key Location/Qualifiers
 FT Misc-difference 521
 FT /note= "Selenocysteine"
 XX
 PN WO200026382-A1.
 XX
 PD 11-MAY-2000.
 XX
 PF 28-OCT-1999; 99WO-JP05983.
 XX
 PR 30-OCT-1998; 98JP-0310422.
 XX
 PA (MEDI-) MEDICAL & BIOLOGICAL LAB CO LTD.
 XX
 PI Toji S, Yano M, Tamai K;
 XX
 DR WPI; 2000-365627/31.
 DR N-PSDB; AAA53429.
 XX
 PT Thioredoxin reductase II (an X-linked inhibitor for apoptosis protein
 PT (XIAP)-binding protein), with thioredoxin reductase activity, useful
 PT e.g. for treating apoptosis-related disorders, cancer and inflammation
 PT -
 XX
 PS Claim 1; Page 53-56; 139pp; Japanese.
 XX
 CC This sequence represents a human thioredoxin reductase (TxR) protein
 CC sequence. The invention relates to two TxR proteins, which have XIAP
 CC (X-linked inhibitor of apoptosis protein)-binding protein activity. The
 CC human TxR gene is located on chromosome 22q11.2. The invention includes
 CC antibodies which bind to the proteins, a vector containing the TxR
 CC encoding nucleotide sequences, and methods for producing transformants
 CC using the vector. Thioredoxin reductase has cytostatic and
 CC anti-inflammatory activity, and is used in the treatment of diseases
 CC relating to apoptosis particularly due to cancer or viral infection. TxR
 CC can also be used to treat inflammation and in the screening of
 CC anti-cancer agents.
 XX
 SQ Sequence 521 AA;

Query Match 99.8%; Score 520; DB 21; Length 521;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 521; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60
 |||
 Db 1 MAVALRGLGGRFRWRTQAVAGGVRGAARGAAAGQRDYDLLVVGGSGLACAKEAAQLGR 60
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 |||
 Db 61 KVAVDYVEPSPQGTRWGLGGTCVNVCIPKKLMHQAALLGGLIQDAPNYGWEVAQPVPH 120
 Qy 121 DWRKMAEAVQNHVKSLSNWGHRVQLQDRKVYFNIKASFVDEHTVCGVAKGGKEILLSADH 180
 |||
 Db 121 DWRKMAEAVQNHVKSLSNWGHRVQLQDRKVYFNIKASFVDEHTVCGVAKGGKEILLSADH 180
 Qy 181 IIIATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD 240

Db	181	 II IATGGRPRYPHTHIEGALEYGITSDDIFWLKESPGKTLVVGASYVALECAGFLTIGILD	240
Qy	241	TTIMMRSIPLRGFDQQMSSMVIEWMHASHGTRFLRGCAPSRVRRLPDGQLQVTWEDSTTGK	300
Db	241	 TTIMMRSIPLRGFDQQMSSMVIEWMHASHGTRFLRGCAPSRVRRLPDGQLQVTWEDSTTGK	300
Qy	301	EDTGTFD TVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG	360
Db	301	 EDTGTFD TVLWAIGRVPDTRSLNLEKAGVDTSPDTQKILVDSREATSVPHIYAIGDVVEG	360
Qy	361	RPELTPTAIMAGRLLVQRLFGGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH	420
Db	361	 RPELTPTAIMAGRLLVQRLFGGSSDLMDYDNVPTTVFTPLEYGCVGLSEEEAVARHGQEH	420
Qy	421	VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC	480
Db	421	 VEVYHAHYKPLEFTVAGRDASQCYVKMVCLREPPQLVLGLHFLGPNAGEVTQGFALGIKC	480
Qy	481	GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG	521
Db	481	 GASYAQVMRTVGIHPTCSEEVVKLRISKRSGLDPTVTGCXG	521

RESULT 3

AAB03788

ID AAB03788 standard; Protein; 494 AA.

XX

AC AAB03788;

XX

DT 13-OCT-2000 (first entry)

XX

DE Human SECIS encoded protein sequence.

XX

KW Selenocysteine insertion sequence; SECIS; thioredoxin reductase;

KW drug development; selenoprotein expression.

XX

OS Homo sapiens.

XX

FH	Key	Location/Qualifiers
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FT	Modified-site	593
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FT		/label= Selenocysteine
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FT		/note= "encoded by TGA"
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PN WO200026358-A1.

XX

PD 11-MAY-2000.

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PF 28-OCT-1999; 99WO-JP05984.

XX

PR 30-OCT-1998; 98JP-0310422.

PR 16-NOV-1998; 98JP-0325344.

XX

PA (MEDI-) MEDICAL & BIOLOGICAL LAB CO LTD.

XX

PI Toji S, Yano M, Tamai K;

XX

DR WPI; 2000-376129/32.

DR N-PSDB; AAA59836.

XX

PT Novel selenocysteine insertion sequence which enforces reading of TGA
PT as selenocysteine in a translated region upstream of it, for expression
PT of selenoproteins -

XX

PS Disclosure; Page 48-52; 60pp; Japanese.

XX

CC The present invention relates to a Selenocysteine insertion sequence
CC which enforces the reading of a TGA codon as selenocysteine in a
CC translated region upstream of it. The novel selenocysteine insertion
CC sequence (SECIS) is of human thioredoxin reductase (TxR) origin. The
CC invention also includes an expression vector for selenoproteins
CC containing the new SECIS, a host cell transformed by the vector,
CC selenoproteins produced by the host cells, and a method for screening for
CC potential inhibitors of selenoprotein expression. The sequence is useful
CC for the effective expression of selenoproteins and the development of
CC drugs for treating disorders with which selenoproteins are associated.
CC The present sequence represents a human amino acid sequence encoded by a
CC SECIS containing nucleotide sequence.

XX

SQ Sequence 494 AA;

Query Match 93.9%; Score 489; DB 21; Length 494;

Best Local Similarity 100.0%; Pred. No. 0;

Matches 490; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	32	AGQRDYDLLVVGGSGGLACAKEAAQLGRKVAVVDYVEPSPQGTRWGLGGTCVNVGCIPK	91
Db	5	AGQRDYDLLVVGGSGGLACAKEAAQLGRKVAVVDYVEPSPQGTRWGLGGTCVNVGCIPK	64
Qy	92	KLMHQAALLGGLIQDAPNYGWEVAQVPVPHDWRKMAEAVQNHVKSLNWGHRVQLQDRKVKY	151
Db	65	KLMHQAALLGGLIQDAPNYGWEVAQVPVPHDWRKMAEAVQNHVKSLNWGHRVQLQDRKVKY	124
Qy	152	FNIKASFVDEHTVCGVAKGGKEILLSADHIIATGGRPRYPHTHIEGALEYGITSDDIFWL	211
Db	125	FNIKASFVDEHTVCGVAKGGKEILLSADHIIATGGRPRYPHTHIEGALEYGITSDDIFWL	184
Qy	212	KESPGKTLVVGASYVALECAGFLTIGLDTTIMMRSIPLRGFDQMSSMVIEHMASHGTR	271
Db	185	KESPGKTLVVGASYVALECAGFLTIGLDTTIMMRSIPLRGFDQMSSMVIEHMASHGTR	244
Qy	272	FLRGCAPSRVRRLPDGQLQVTWEDSTTGKEDTGTFTVLWAIGRVPDTRSLNLEKAGVDT	331
Db	245	FLRGCAPSRVRRLPDGQLQVTWEDSTTGKEDTGTFTVLWAIGRVPDTRSLNLEKAGVDT	304
Qy	332	SPDTQKILVDSREATSVPHIYAIGDVVEGRPELTPTAIMAGRLLVQRLFGGSSDLMDYDN	391
Db	305	SPDTQKILVDSREATSVPHIYAIGDVVEGRPELTPTAIMAGRLLVQRLFGGSSDLMDYDN	364
Qy	392	VPPTTVFTPLEYGCVGLSEEEAVARHGQEHVEVYHAHYKPLEFTVAGRNASQCYVKMVCLR	451
Db	365	VPPTTVFTPLEYGCVGLSEEEAVARHGQEHVEVYHAHYKPLEFTVAGRNASQCYVKMVCLR	424
Qy	452	EPPQLVLGLHFLGPNAGEVTQGFALGIKCGASYAQMRTVGIHPTCSEEVVKLRISKRSR	511

Db |||||
425 EPPQLVLGLHFLGPNAGEVTQGFALGIKCGASYAQVMRTVGIHPTCSEEVVKLRISKRS 484

Qy 512 LDPTVTGCXG 521

Db |||||
485 LDPTVTGCXG 494